RF EXPOSURE REPORT

REPORT NO.: SA140729C08A

MODEL NO.: DCH-G021

FCC ID: KA2CHG021A1

RECEIVED: Oct. 24, 2014

TESTED: Oct. 29 ~ Nov. 03, 2014

ISSUED: Nov. 04, 2014

APPLICANT: D-LINK CORPORATION

ADDRESS: 17595 Mt. Hermann, Fountain Valley, CA 92708, U.S.A.

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140729C08A	Original release	Nov. 04, 2014

1. CERTIFICATION

PRODUCT: Wireless smart hub

MODEL: DCH-G021

BRAND: D-Link

APPLICANT: D-LINK CORPORATION

TESTED: Oct. 29 ~ Nov. 03, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: **FCC Part 2 (Section 2.1091)**

KDB 447498 D03

IEEE C95.1

The above equipment (Model: DCH-G021) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Nov. 04, 2014

Polly Chien / Specialist

APPROVED BY : _____ , **DATE:** Nov. 04, 2014

Ken Liu / Senior Manager

NOTE: This is a duplicate report of SA140729C08. The difference compared with the original report is adding one adapter. Due to no effect on any test item and we didn't re-test.

2. RF EXPOSURE

2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm^2)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

2.2 MPE CALCULATION FORMULA

Pd = (Pout*G) / (4*pi*r^2)

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

Mode	Frequency band (MHz)	Conducted power (mW)	Conducted power (dBm)	Antenna Gain (dBi)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WiFi 2.4G	2412~2462	274.157	24.38	2.10	0.088	1
BT EDR	2402~2480	9.016	9.55	2.10	0.003	1
Zigbee	2405 ~ 2480	79.433	19.00	1.72	0.023	1

**Zigbee can transmit simultaneously with WLAN or BT but not WLAN and BT. WLAN and BT cannot transmit at the same time.

CONCULSION:

Zigbee can transmit simultaneously with WLAN or BT, the formula of the calculated MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Conducted power:

WiFi 2.4G + Zigbee = 274.157 + 79.433 = 353.59(mW)= 25.48(dBm) < 30(dBm)

BT EDR + Zigbee = 9.016 + 79.433 = 88.449(mW)= 19.47(dBm) < 30(dBm)

Power density:

WiFi 2.4G + Zigbee = 0.088 + 0.023 = 0.111

BT EDR + Zigbee = 0.003 + 0.023 = 0.026

Therefore the maximum calculations of the above situations are less than the "1" limit.

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